said polypeptide having at least one of the following properties:

a) induces inhibition of spontaneous IL-8 production by human monocytes,

b) induces inhibition of IL-1β induced IL-8 production by human peripheral blood mononuclear cells (PBMC),

c) induces production of interleukin-1 receptor antagonistic protein (IRAP) by human monocytes,

d) induces chemotactic migration of CD8+ human T lymphocytes in vitro,

e) desensitizes human CD8+ T cells resulting in an unresponsiveness towards rhIL-10,

f) suppresses the chemotactic response of CD4+ T human lymphocytes towards IL-8,

g) suppresses the chemotactic response of human monocytes towards MCAF/MCP-1,

h) inhibits class II MHC molecule expression on human monocytes stimulated by IFN-γ,

i) induces the production of IL-4 by cultured normal human CD4+ T cells,

j) reduces the TNFα production in human mixed leukocyte reaction, or

k) downregulates TNFα and IL-8 production in a rabbit model of bile acid induced acute pancreatitis and reduces neutrophil infiltration in the lungs of the treated rabbits.

19. A polypeptide according to claim 18, which comprises the following sequence

X_3-Thr-X_4-Lys-X_5-Arg-X_6 (SEQ ID NO:20),

wherein

X_3, X_4 and X_5 are independently selected from the group consisting of Met, Ile, Leu and Val; and

X_6 is selected from the group consisting of Asn, Asp, Gln and Glu,

wherein at least one of the following conditions (I)-(V) is true:

I) at least one of X_3, X_4, X_5, X_6, Thr, Lys, and Arg is independently substituted with a non-natural or unusual amino acid,

II) the polypeptide is cyclized,

III) the polypeptide is stabilized,

IV) the aminoterminal amino acid residue is acylated, or

V) the carboxyterminal amino acid residue is amidated.

20. A polypeptide according to claim 18, which comprises the following sequence

X_2-X_3-Thr-X_4-Lys-X_5-Arg-X_6 (SEQ ID NO:21),

wherein

X_2 is Tyr or Phe,

X_3, X_4 and X_5 are independently selected from the group consisting of Met, Ile, Leu and Val; and

X_6 is selected from the group consisting of Asn, Asp, Gln and Glu,

wherein at least one of the following conditions (I)-(V) is true:

I) at least one of X_2, X_3, X_4, X_5, X_6, Thr, Lys, and Arg is independently substituted with a non-natural or unusual amino acid,

II) the polypeptide is cyclized,

III) the polypeptide is stabilized,

IV) the aminoterminal amino acid residue is acylated, or

V) the carboxyterminal amino acid residue is amidated.

21. A polypeptide according to claim 18, which comprises the following sequence

X_1-X_2-X_3-Thr-X_4-Lys-X_5-Arg-X_6 (SEQ ID NO:22),

wherein

X_1 is Ala or Gly,

X_2 is Tyr or Phe,

X_3, X_4 and X_5 are independently selected from the group consisting of Met, Ile, Leu and Val; and

X_6 is selected from the group consisting of Asn, Asp, Gln and

Glu,
wherein at least one of the following conditions (I)-(V) is true:

I) at least one of X_1, X_2, X_3, X_4, X_5, X_6, Thr, Lys, and Arg is independently substituted with a non-natural or unusual amino acid,

II) the polypeptide is cyclized,

III) the polypeptide is stabilized,

IV) the aminoterminal amino acid residue is acylated, or

V) the carboxyterminal amino acid residue is amidated.

22. A polypeptide amounting up to about 30 amino acids which comprises the following sequence

Thr-X_4-Lys-X_5-Arg-X_6 (SEQ ID NO:19),

wherein
X_4 and X_5 are independently selected from the group consisting of Met, Ile, Leu and Val; and
X_6 is selected from the group consisting of Asn, Asp, Gln and Glu,
wherein
at least one of Thr, Lys, and Arg is independently substituted with a non-natural or unusual amino acid,
said polypeptide having at least one of the properties defined in claim 18.

23. A polypeptide according to claim 18 amounting up to 30 amino acids.

24. A polypeptide according to claim 18 amounting up to 20 amino acids.

25. A polypeptide according to claim 18 amounting up to 15 amino acids.

26. A polypeptide according to claim 18 amounting in total 10, 11, 12, 13, or 14 amino acids.

27. A polypeptide according to claim 18 amounting in total 9 amino acids.

28. The polypeptide of claim 21 wherein at least condition

(I) is true.

29. The polypeptide of claim 20 wherein at least condition (I) is true.

30. The polypeptide of claim 19 wherein at least condition (I) is true.

31. The polypeptide of claim 18 wherein at least condition (I) is true.

32. The polypeptide of claim 18 which has the amino acid sequence Ala-Tyr-Met-Thr-Met-Lys-Ile-Arg-Asn (SEQ ID NO:1).

33. A substance which is a polypeptide as defined in claim 18 or is a salt, ester, or a solvate of said polypeptide.

34. A polypeptide according to claim 18 which is cyclized.

35. A polypeptide according to claim 18 which is stabilized.

36. A polypeptide according to claim 18 wherein the aminoterminal amino acid residue is acylated.

37. A polypeptide according to claim 18 wherein the carboxyterminal amino acid residue is amidated.

38. A polypeptide according to claim 18 encapsulated in a liposome.

39. A polypeptide according to claim 18 in substantially pure form.

40. A peptidomimetic modelled on the basis of a polypeptide according to claim 18.

41. A pharmaceutical composition comprising a polypeptide according to claim 18, or a salt, ester or solvate of said polypeptide, or a peptidomimetic modelled on the basis of said polypeptide.

42. A method of treating and/or preventing one or more of the diseases selected from the group consisting of pre-term labour caused by infection or other conditions, rheumatoid arthritis, Lyme's arthritis, gout, sepsis syndrome, hyperthermia, ulcerative colitis or enterocolitis, osteoporosis, cytomegalovirus, periodontal diseases, glomerulonephritis, chronic, non-

infectious inflammation of the lung (e.g. sarcoidosis and smoker's lung), granuloma formation, fibrosis of the liver, fibrosis of the lung, transplant rejection, graft vs. host disease, chronic myeloid leukemia, acute myeloid leukemia, other neoplastic diseases, asthma bronchiale, diabetes mellitus, type I (insulin dependent), arteriosclerosis/atherosclerosis, psoriasis, chronic B lymphocyte leukemia, common variable immunodeficiency, side-effects using other biological response modifiers, disseminated intravascular coagulation, systemic sclerosis, encephalomyelitis, lung inflammation, hyper IgE syndrome, enterocolitis, cancer metastasis and growth, adoptive immune therapy, acquired respiratory distress syndrome, sepsis, reperfusion syndrome, postsurgical inflammation, organ transplantation, alopecia, and pancreatitis, the method comprising administering to a patient in need thereof a therapeutically or prophylactically effective amount of a pharmaceutical composition according to claim 41.

43. A method of treating and/or preventing pancreatitis, the method comprising administering to a patient in need thereof a therapeutically or prophylactically effective amount of (1) a polypeptide amounting at most 100 amino acids which comprises the following formula

$Thr\text{-}X_4\text{-}Lys\text{-}X_5\text{-}Arg\text{-}X_6$ (SEQ ID NO:19),

wherein

X_4 and X_5 are independently selected from the group consisting of Met, Ile, Leu and Val; and

X_6 is selected from the group consisting of Asn, Asp, Gln and Glu,

or (2) of a peptidomimetic modelled on the basis of the above formula.

44. A method of treating and/or preventing acquired immundeficiency syndrom (AIDS/HIV), cutaneous HPV-infection, or spontenous abortion, the method comprising administering to a

patient in need thereof a therapeutically or prophylactically effective amount

1) of a polypeptide amounting at most 100 amino acids which comprises the following formula

$Thr-X_4-Lys-X_5-Arg-X_6$ (SEQ ID NO:19),

wherein

X_4 and X_5 are independently selected from the group consisting of Met, Ile, Leu and Val; and

X_6 is selected from the group consisting of Asn, Asp, Gln and Glu,

or

2) of a peptidomimetic modelled on the basis of the above formula.

45. A method of treating and/or preventing pancreatitis, the method comprising administering to a patient in need thereof a therapeutically or prophylactically effective amount of a polypeptide amounting at most 100 amino acids, said polypeptide comprising the formula

$Thr-X_4-Lys-X_5-Arg-X_6$ (SEQ ID NO:19),

wherein

X_4 and X_5 are independently selected from the group consisting of Met, Ile, Leu and Val; and

X_6 is selected from the group consisting of Asn, Asp, Gln and Glu,

said polypeptide having at least one of the properties defined in claim 18.

46. A method of treating and/or preventing pancreatitis, the method comprising administering to a patient in need thereof a therapeutically or prophylactically effective amount of (1) a polypeptide according to claim 18 said polypeptide comprising an amino acid sequence selected from the group consisting of

$X_1-X_2-X_3-Thr-X_4-Lys-X_5-Arg-X_6$ (SEQ ID NO:22),

$X_2-X_3-Thr-X_4-Lys-X_5-Arg-X_6$ (SEQ ID NO:21),

X_3-Thr-X_4-Lys-X_5-Arg-X_6 (SEQ ID NO:20),

wherein

X_1 is Ala or Gly,

X_2 is Tyr or Phe,

X_3, X_4 and X_5 are independently selected from the group consisting of Met, Ile, Leu, and Val; and

X_6 is selected from the group consisting of Asn, Asp, Gln, and Glu,

(2) of a peptidomimetic modelled on the basis of one of the above formula.

47. A process for synthesizing of a polypeptide according to claim 18 by use of solid-phase peptide synthesis (SPPS), the process comprising the following steps:

a) covalently coupling the carboxy-terminal amino acid in the form of an N-alpha-protected, optionally side chain-protected reactive derivative, either directly or by means of a suitable linker to a solid support,

b) removing the N-alpha-protective group,

c) adding the succeeding protected amino acids according to the desired sequence in a stepwise manner,

d) removing the side chain-protective groups, if any, and

e) upon or after assembly of the complete peptide chain, cleaving the peptide from the resin.

48. A polypeptide according to claim 18, or a polypeptide amounting at most 100 amino acids which comprises the following formula

Thr-X_4-Lys-X_5-Arg-X_6 (SEQ ID NO:19),

wherein

X_4 and X_5 are independently selected from the group consisting of Met, Ile, Leu and Val; and

X_6 is selected from the group consisting of Asn, Asp, Gln and Glu,

wherein

the binding affinity of the polypeptide for the IL-10 receptor is increased or decreased compared to a polypeptide having the amino acid sequence Ala-Tyr-Met-Thr-Met-Lys-Ile-Arg-Asn (SEQ ID NO:1).

REMARKS

These amendments put the claims in better condition for allowance.

Respectfully submitted,

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